

WHAT IS CLAIMED IS:

1. A process for producing a yarn suitable for tufting, said process comprising the steps of:

- a. forming a bundle of fiber;
- 5 b. ring spinning or wrap spinning the bundle of fiber with a second fiber comprising a heat-activated binder material having a melting point range of about 105° to 190°C under ambient conditions to form a yarn;
- c. twisting two or more of the yarns to form a plied yarn comprising
- 10 0.1 to 12 weight percent of the binder material;
- d. heating the plied yarn sufficiently to melt the binder material; followed by
- e. cooling the plied yarn to solidify the binder material.

2. The process of claim 1 wherein said heating step occurs during

15 twist setting of the plied yarn.

3. The process of claim 1 wherein the bundle of fiber is formed by spinning staple fiber.

4. A wrap spun yarn made in accordance with the process of claim

1.

20 5. A ring spun yarn made in accordance with the process of claim

1.

6. A process for producing a plied yarn suitable for tufting, said process comprising the steps of:

- a. forming a bundle of fiber;
- 25 b. ring spinning the bundle of fiber into a ring spun yarn;
- c. twisting at least two ring spun yarns with at least one second fiber to form a plied yarn, said second fiber(s) comprising a heat-activated binder material having a melting point of about 105 to 190°C under ambient conditions, said plied yarn comprising 0.1 to 12 weight percent of
- 30 the binder material;
- d. heating the plied yarn sufficiently to melt the binder material; followed by

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e. cooling the plied yarn to solidify the binder material.

7. The process of claim 6 wherein said heating step occurs during twist setting of the plied yarn.

5 8. The process of claim 6 wherein the bundle of fiber is formed by spinning staple fiber.

9. A plied yarn made in accordance with the process of claim 6.

10. The process of claim 6 wherein the twisting is ply twisting and wherein the ring spun yarns are wound with the second fiber(s) to form an assembly wound package to provide the feed yarns for ply twisting.

10 11. The process of claim 10 wherein said heating step occurs during twist setting of the plied yarn.

12. The process of claim 10 wherein the bundle of fiber is formed by spinning staple fiber.

15 13. A plied yarn in accordance with the process of claim 10.

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